

THE AEROPLANE SPOTTER

Proprietors:
TEMPLE PRESS LTD.

Managing Director:
ROLAND E. DANGERFIELD

Head Office:
BOWLING GREEN LANE,
LONDON, E.C.1

Telephone: TERminus 3636

Incorporating the Bulletin of
The National Association of Spotters' Clubs

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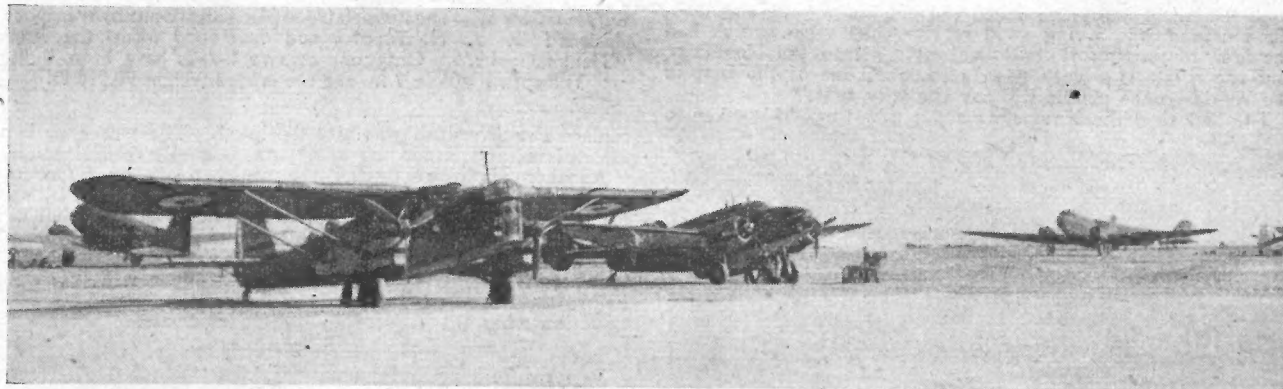
FOR THE ALERT

ALTERNATE
THURSDAYS

3rd

OF ALL NEWSAGENTS
OR DIRECT FROM THE
PUBLISHERS, POSTAGE PAID

12 Months 8/8 6 Months 4/4 3 Months 2/2



IN ALGERIA.—A mixed assortment of Allied and French aeroplanes on an aerodrome in French North Africa. Left to right can be seen a Douglas C-47 Skytrain of the U.S. Army 12th Air Force, a Potez 54 multi-seat fighter-bomber-transport, a Lockheed Hudson V of the Royal Air Force, two more Skytrains and the tail of a Bristol Beaufighter.

ALTHOUGH little has been published concerning aeronautical developments in France since the German occupation, a fair amount of design and development work has been going on for some time as well as production for Germany. When the invasion of the Continent does become a practical military operation with final victory in sight a number of new and unfamiliar aircraft are likely to be seen in France.

For more than a year now the erstwhile French Aircraft Industry has been building parts for Me 109s and Fw 190 fighters, Ju 52/3m transports, Dornier bombers, a number of seaplanes, either Heinkel or Arado, Siebel Fh 104 communications monoplanes and Fieseler Storch Army Co-operation monoplanes. Among these the Amiot concern at Colombes is known to be working on Messerschmitts, the Morane-Saulnier company is building Fieseler Storchs at Puteaux, near Paris, while the Bloch company is doing repair work on Heinkel bombers. This latter company may be the concern which is building a small batch of Heinkel He 274s. This aeroplane is a transport version of the He 177 and is reported to be powered with four 2,000 h.p. BMW 802 radial motors in four separate nacelles. The loaded weight will be in the region of 80,000 lb. and the first should be flying soon.

A New French Fighter

More than a dozen new French designs are now flying. The Arsenal concern has completed the VG-50 two-motor single-seat fighter at Lyons. The two Hispano-Suiza liquid-cooled Vee motors are mounted in tandem, one in front of the other. The drive from the rear motor is led forward through the hollow shaft provided for the cannon of the front motor and a contra-rotating airscrew is fitted.

The Bloch company (S.N.C.A. de Sud-Ouest) has more aircraft under construction than any other manufacturer in France to-day—in all there are five different types. The first of these is the Bloch 157 single-seat fighter, the trials of which have been going on for some months. The Bloch 157 is developed from the Bloch 151 by way of the Bloch 155. It has a 1,500 h.p. Gnôme Rhône 14R two-row radial motor which is reputed to give it a top speed of about 420 m.p.h.—which sounds optimistic. The armament is two cannon and two machine-guns. A small production order has been placed.

The Bloch 161 four-motor transport for 33 passengers is now flying as is its military development the Bloch 162 four-motor bomber. This bomber is reputed to have a top speed of 320 m.p.h. and to be able to carry nearly 8,000 lb. of bombs. Probably an exaggeration again. The Vichy French report that a prototype Bloch 175 two-motor torpedo-bomber had just flown to Dakar when that province came over to the Allies. Finally there is the Bloch 800 two-motor high-speed mailplane or eight-seat light transport. This machine is being put into production under the name SO-90 and differs only that it has twin fins and rudders. A second

version, the SO-91, has a tricycle undercarriage. Both are powered with 375 h.p. Bearn six-cylinder in-line motors.

The Breguet company has recently flown the G-10A helicopter at Chambéry in Savoy. It is probably the most powerful helicopter yet, as it has a 600 h.p. Gnôme Rhône 14N radial motor which gives it a speed range of 0 to 125 m.p.h. Two oppositely rotating two-blade rotors are mounted on a single shaft and are 51 ft. 9 in. in diameter. The G-10A has a tricycle undercarriage and a loaded weight of 7,715 lb. Four passengers can be carried.

The Centre company at Cannes is building an experimental stratosphere monoplane powered with two Hispano-Suiza liquid-cooled Vee motors side by side in the nose driving a contra-rotating airscrew. The pressure cabin has accommodation for a crew of five and is designed to operate up to 49,000 ft.

Marseilles is considered to be unsafe for the three big six-motor transport flying-boats now that Algeria is in Allied hands, so all three are to be transferred to a new base at Amphion on the French side of the Lake of Geneva. These three boats, the Latécoère 631, the Potez CAMS 161 and the SE-200 are among the largest aeroplanes in the World. All were built to the same specification for trans-Atlantic operation.

A Tailless Gyroplane

Another Sud Est type is the SE-700 tailless gyroplane for four people, powered with a 300 h.p. radial motor. Two large two-motor transports, the SO-30N for 23 passengers and the SO-30R for 30 passengers are flying now. Both are mid-wing monoplanes, are powered with 1,500 h.p. Gnôme Rhône 14R two-row radials and have pressure cabins. The top speed of the SO-30N is reported to be 300 m.p.h. at 20,000 ft.

Last of all is a little single-seat sporting biplane with very small gap. This aeroplane, the Stark AS-20, has a top speed of 143 m.p.h. with a 70 h.p. Regnier 4D-2 motor. The span is only 19 ft.

All these new French designs as well as the few Martin 167ws (Marylands), Douglas DB-7s (Boston Is), Caudron Goelands and Simouns, Dewoitine D.338s, Bloch 220s and LeO. H-246 flying-boats flying in France are painted with German markings. Vichy reports state that when the Allies landed in North Africa there were about 200 French aircraft in Morocco, 700 in Algeria and Tunisia and 300 in West Africa. They included, among others, D.520 and Curtiss Hawk fighters, Bloch 174 bombers and Potez 54 bomber-transport.

On the engine side Voisin is building BMW 132s for Germany at Issy-les-Moulineaux, Gnôme Rhône is producing the 1,500 h.p. 14R radial at Limoges and a few Hispano-Suiza motors are in production at Colombes. The Potez concern is developing a 28-cylinder four-row radial of unspecified horse-power.

Thus the French Aircraft Industry is still alive, and although it is working for the enemy, is also engaged in original thought. This survey of known activity confirms the impression gained before the War that French designers are constantly striving after the new and unconventional without any great depth of productive effort.

NEWS OF THE WEEK

OUT AND ABOUT

TWO facts of some interest were revealed by Lord Beaverbrook in the House of Lords on Jan. 27. These were that the Bristol Beaufighter is now in service as a torpedo-bomber and that the North American Mustang has been fitted with a Rolls-Royce Merlin motor.

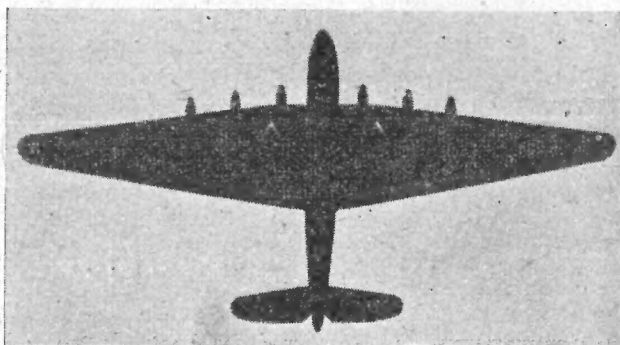
Of the Beaufighter Lord Beaverbrook said:—"It has been stated over and over again that the torpedo in our Swordfish, Albacore, and now in the Beaufighter, is an 18-in. torpedo."

Speaking of production and the work done by the Aircraft Industry, he said that the best production job he had ever seen was the production of the Rolls-Royce engines in the U.S.A. with not a single member of the Ministry of Aircraft Production and only four representatives of the Rolls-Royce firm in attendance. He continued: "The Packard Rolls-Royce engine is an example to the whole World. There was a very good American aeroplane called the Mustang. The engine of the Mustang was giving good service, but some genius had the idea of putting Rolls-Royce engines into the Mustangs, and the result is a very good aeroplane, one of the best in the World—some people will say the very best."

The fact that the Navy now has a new torpedo-bomber to



A LESSER-KNOWN TYPE.—The Arado Ar 198 reconnaissance monoplane. So far as is known only the prototype was built. The span is 48 ft. 10 in., length 38 ft. 8½ in. With a 830 h.p. Bramo 322A motor the top speed is about 210 m.p.h. In general the Ar 198 is in the same class as the Lysander.



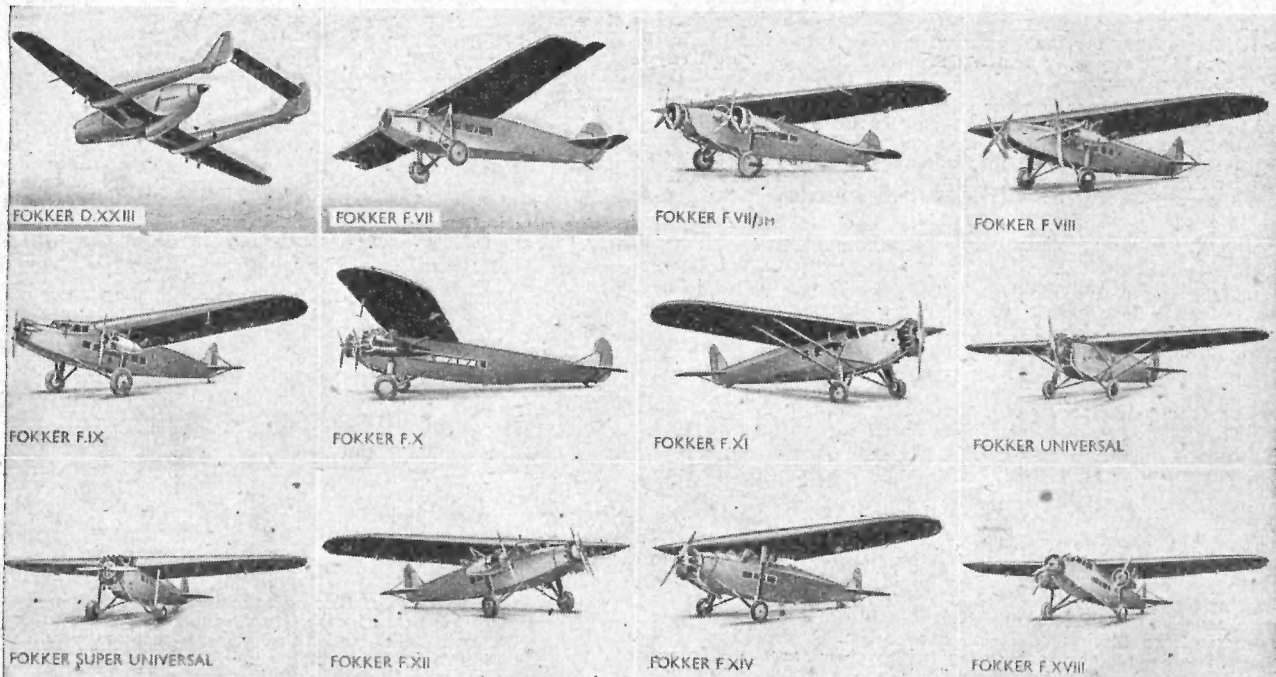
SOVIET GIANT.—The Russian L-760 (Ant-20) six-motor transport designed by A. N. Tupolev and developed from the Ant-"Maxim Gorky." Only one or two L-760s have been built. The span is 206 ft. 7 in. and the loaded weight 90,000 lb.

replace the Swordfish was also disclosed. The new type is a monoplane, and, according to reports, is named the Barracuda.

Another disclosure during the week, made by Squadron Leader H. W. McKenna, a Director of Short Bros. Ltd., was that his Company has plans for new flying-boats for civil use of nearly 100 tons and with a total engine power of 18,000 h.p. and a range of 3,000 miles. He stated that Short Bros. Ltd. had been investigating the possibilities of big new flying-boats before the War and were contemplating the immediate construction after the War of 100-ton flying-boats.

Reports from neutral sources speak of "a new Rolls-Royce Griffon" aero-motor and speculate on its installation in a new version of the Spitfire. The same sources mention that an experimental version of the Junkers Ju 87D is now flying with backward retracting undercarriage which turns to lie flat in the wing.

THE SPOTTERS' A.B.C.—XLVII



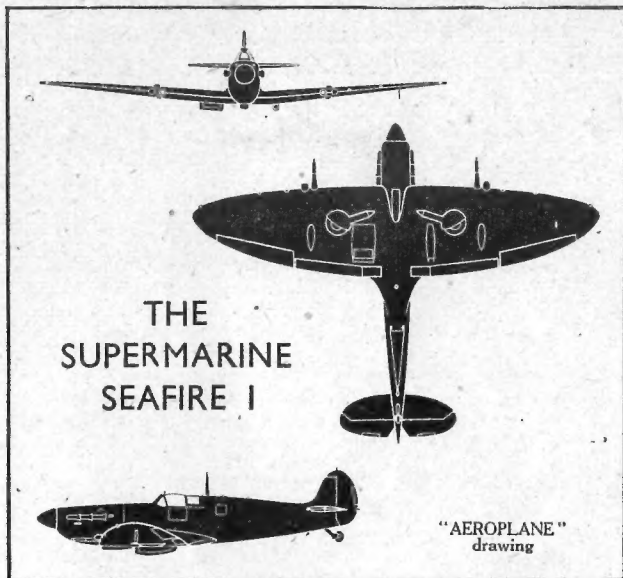
FOKKER TRANSPORTS.—The last of the long line of famous Fokker fighters to be built was the Fokker D.XXIII two-motor single-seater with tandem tractor and pusher motors and the pilot in between. The armament was two 7.9 mm. machine-guns in the fuselage and two 20 mm. cannon in the wings. The top speed with two 285 h.p. Walter Sagitta motors was 326 m.p.h. With two Merlin IIs it was estimated as 385 m.p.h. The Fokker F.VII was the first of the famous Fokker transports. The prototype, which was still flying in Holland in May, 1940, was built in 1925. It carried eight passengers. The F.VII/3M was a three-motor version of the earlier machine and was very widely used in the late 1920s. Machines of this type flew on many air lines, flew the Atlantic, and were built in England under the name Avro X. The top speed was 131 m.p.h. The Fokker F.VIII was a two-motor monoplane for 15 passengers. Top speed 127 m.p.h. with two 585 h.p. Pratt and Whitney Hornets. The F.IX was a tri-motor for 20 passengers. Top speed 168 m.p.h. with three Wright Cyclones. The F.X was "built by the American Fokker company, a 12-passenger tri-motor. Top speed 140 m.p.h. with three 425 h.p. Wasps. It was named the "Super Tri-motor" and was copied in metal by the Ford Company for the Ford Tri-motor. The F.XI was a six-passenger single-motor monoplane. It did 124 m.p.h. with a 450 h.p. Gnôme-Rhône Jupiter. The Fokker Universal was the American version of the Netherlands F.XI. The name came from the fact that it was built in 1928 at a time when the Fokker Corporation of America established a close liaison with the Universal Aviation Corp. The Super Universal was a development for six passengers. Max. speed 138 m.p.h. on a 410 h.p. Pratt and Whitney Wasp. The F.XII is a 16-passenger tri-motor. Top speed 159 m.p.h. with three 550 h.p. Wasps. Still flying in Great Britain. The F.XIV was a development of the F.XI. Max. speed 140 m.p.h. with a Hornet motor. The F.XVIII was a 14-passenger tri-motor designed for the K.L.M. route from Holland to Batavia. Max. speed 168 m.p.h. on 550 h.p. Wasps.

AIRCRAFT IN THE NEWS—LXXVII

THE VICKERS-ARMSTRONGS SUPERMARINE SEAFIRE

SUPERMARINE Seafire I single-seat fighters were reported in action for the first time in support of the Allied landings in Algeria on November 7, 1942. The Seafire is the naval version of the Spitfire V fitted with deck arrestor hook for alighting on aircraft carriers and catapult points for launching.

The first Supermarine Seafire was flown on to the *Illustrious* a year ago by Commander H. P. Bramwell: He flew on 12



times and took off on seven occasions during the experiment. On the other four occasions he was launched by catapult.

Several basic marks of Seafire are flying now. The Seafire I (Rolls-Royce Merlin 46 motor) has two cannon and four machine-guns.

The Seafire is flying in both temperate and tropical forms, with and without air filters. It is probably the fastest and most formidable naval fighter on active service anywhere in the World, with a top speed of more than 360 m.p.h. The modification of the Spitfire for service from carriers thus follows earlier precedent in which the Fury became the Nimrod and the Hurricane the Sea Hurricane.

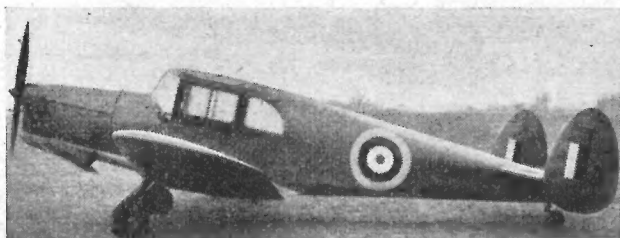
DIMENSIONS.—Span, 36 ft. 10 in.; length, 29 ft. 11 in.; height, 11 ft. 5 in.; wing area (gross), 242 sq. ft.; aspect ratio, 5.63.

PERFORMANCE.—Maximum speed, more than 360 m.p.h.

POINTS OF RECOGNITION.—Single in-line motor low-wing cantilever monoplane. Short nose. Elliptical wings with stronger curve on trailing edge than on leading edge. Small fillets. Equal taper on top and bottom lines of fuselage aft of wing. Elliptical tailplane mounted high on fuselage. Small rounded fin and rudder. Fixed tailwheel. Large radiator offset to starboard.

CIVIL IDENTIFICATION—LXXVII

THE MILES M-28



THE MILES M-28, details of which have just been released, is the first light aeroplane for communications or light transport work to be built in this country since the War began. There are three versions of the M-28, a two-seat initial trainer, an intermediate trainer, or a four-seat communications type, but all have similar features and are designed to take any motor of about 150 h.p.

Unusual features are the side-by-side car-type seating, specially low-cut windows, roomy fuselage, twin fins and rudders and retractable undercarriage.

The M-28 can also be adapted for a number of specialised purposes, including field ambulance work, army co-operation,

radio and navigational training, air crew training and freight carrying. As a freighter it has a pay load of 730 lb., which represents two spare Gipsy Major motors and airscrews, 40 Bren guns, nearly 100 gallons of fuel or 70 gallons of water. The M-28 is of typical Miles wood construction.

The following particulars, photograph and silhouettes are for the communications M-28:—

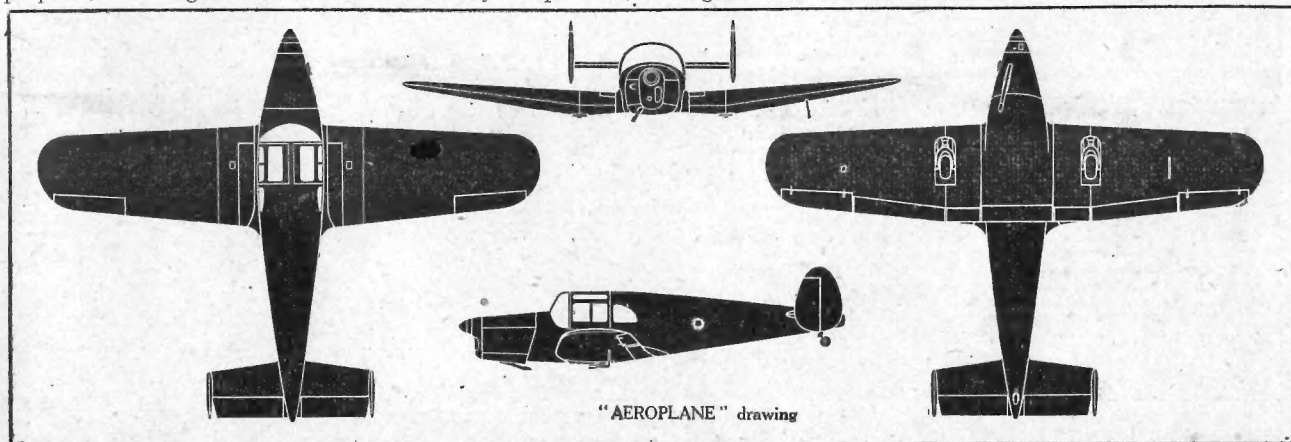
DIMENSIONS.—Span, 30 ft. 6 in.; length, 22 ft. 1½ in.; height, 8 ft. 6 in.; wing area, 160 sq. ft. aspect ratio, 5.8.

WEIGHTS.—Empty, 1,450 lb.; loaded, 2,358 lb.

PERFORMANCE.—(Gipsy Major IIA motor with fixed-pitch airscrew): Speed, 155 m.p.h.; range, 700 miles at 140 m.p.h. at 1,000 ft.; initial rate of climb, 950 ft. per min.

(With the Gipsy Major III motor and constant-speed airscrew the top speed is 160 m.p.h., and with the Gipsy Major IIIS motor and c.p. airscrew, 176 m.p.h. at 7,000 ft.)

POINTS OF RECOGNITION.—Low-wing cabin monoplane. Short in-line motor. Slight taper on leading and trailing edges of wings; rounded tips. High but short cabin. Equal taper on top and bottom lines of fuselage to tailplane with tapered leading edge, straight trailing edge and tips cut square to mount the twin out-rigged oval fins and rudders. Main wheels retract into thickened centre section. Slight dihedral on outer wing sections. Fixed tail wheel.



NEWS IN PICTURES



AT STALINGRAD.—A Junkers Ju 52/3mF troop-transport alights to bring provisions to the surrounded German troops at Stalingrad before their final surrender. Many hundreds of these machines were destroyed.



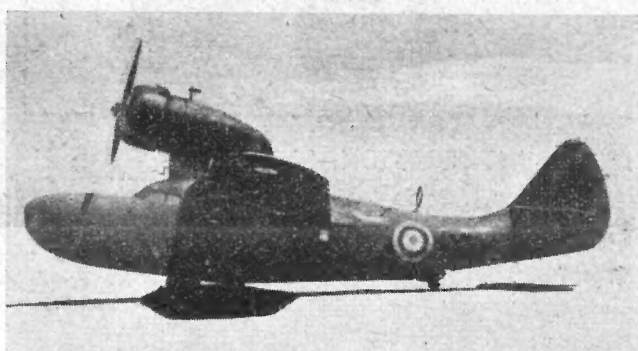
THE HENSCHEL Hs 129.—A photograph of the new Hs 129 ground attack bomber just before it crashed behind the British lines in Tripolitania.



RE-MUSTERED.—A Heinkel He 111H3 captured in the Western Desert and now flying with British markings.



TANKED UP.—A Bell P-39 Airacobra of the latest mark, with long-range tank slung underneath, in the Aleutian Islands.



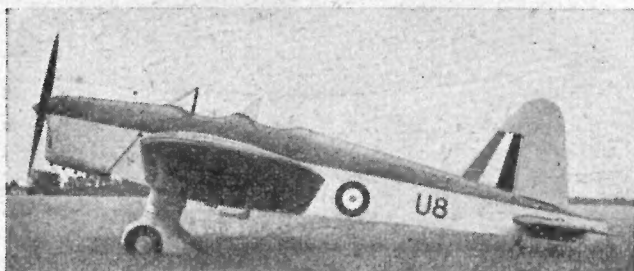
AIR-SEA RESCUE.—A Fairchild 91 amphibian flying-boat on an advanced landing ground in the Middle East.



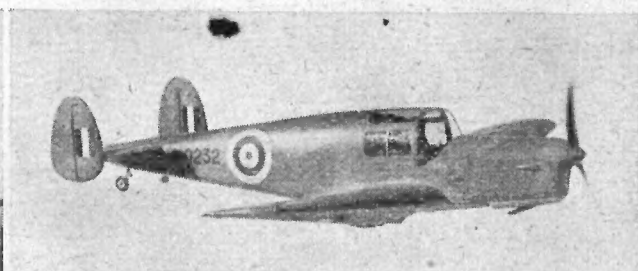
NAVAL DIVE BOMBER.—The Curtiss SB2C-1 Helldiver monoplane now in large scale production in the U.S.A. and Canada.



IN TRIPOLITANIA.—A line-up of Curtiss Kittyhawk I (P-40e) single-seat fighters of the R.A.F. Middle East Command. Note the new extended fin.

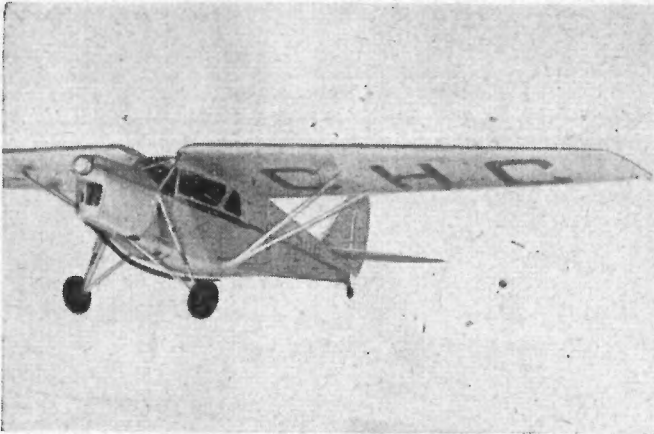


"MAGGIE II."—The Phillips and Powis Miles M-18 Magister II two-seat initial trainer. Note the large fin and rudder and square-cut wings.



LOOKING AHEAD.—The Miles M-28 light communications and advanced training monoplane which should be convertible into a pleasant privately owned type after the War.

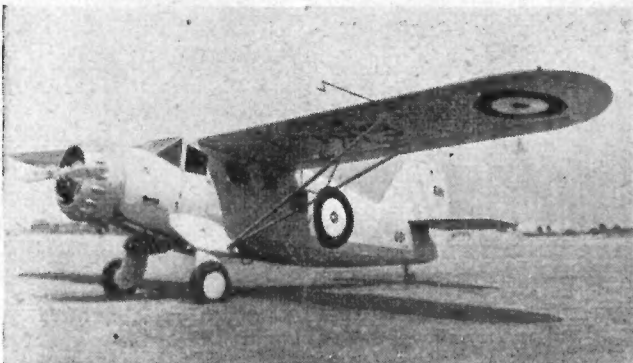
HIGH-WING MONOPLANES—II



THE DE HAVILLAND LEOPARD MOTH (one 130 h.p. D.H. Gipsy Major I motor). Span, 37 ft. 6 in.; length, 24 ft. 6 in. Max. speed, 134 m.p.h. at sea level. Light communications, R.A.F.



THE DE HAVILLAND PUSS MOTH (one 120 h.p. D.H. Gipsy III motor). Span, 39 ft. 4 in.; length, 24 ft. 11 in. Max. speed, 127 m.p.h. at sea level. Light communications, R.A.F. and R.C.A.F.



THE NOORDUYN NORSEMAN (one 550 h.p. Pratt and Whitney Wasp 53 HI motor). Span, 51 ft. 6 in.; length, 32 ft. 0 in. Max. speed, 170 m.p.h. at 5,000 ft. Canadian transport and trainer (radio and navigation) used by R.C.A.F., U.S.A.A.F., Royal Canadian Mounted Police, etc.



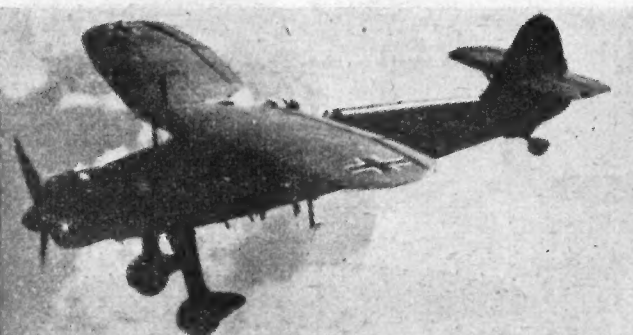
THE HOWARD BG-1 (one 400 h.p. Pratt and Whitney Wasp Junior SB motor). Span, 38 ft. 0 in.; length, 25 ft. 5½ in. Max. speed, 192 m.p.h. Communications monoplane and light cargo transport, U.S. Navy. Developed from Howard DGA-15P four-seat civil monoplane.



THE STINSON AT-19 RELIANT (one 290 h.p. Lycoming motor). Span, 42 ft. 0 in.; length, 30 ft. 0 in. Cruising speed, 151 m.p.h. Navigational trainer and light communications monoplane, R.A.F.



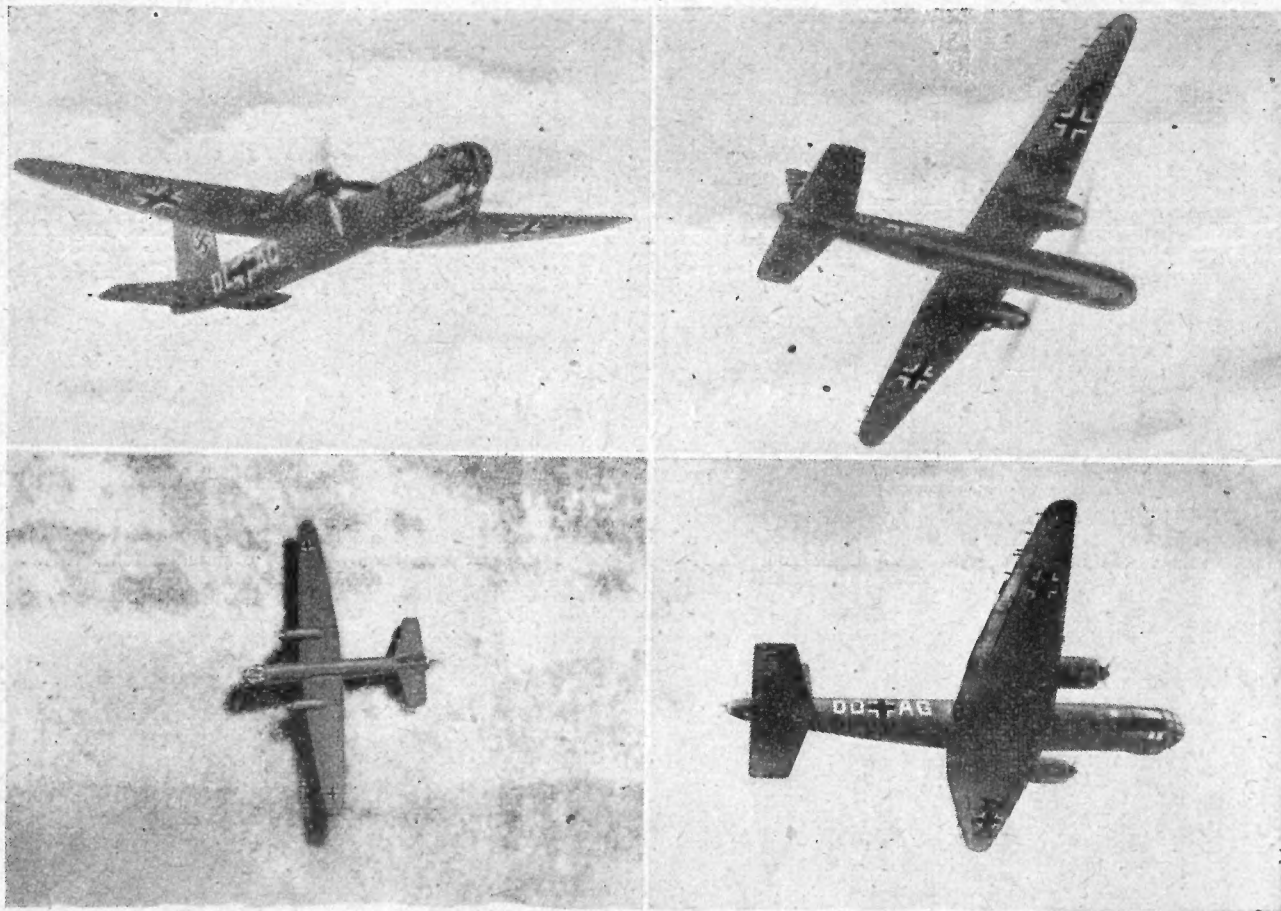
THE STINSON L-5 SENTINEL (one 190 h.p. Lycoming motor). Span, 34 ft. 0 in.; length, 24 ft. 0 in. No performance figures available for publication. Light communications and reconnaissance, U.S.A.A.F.



THE HENSCHEL Hs 126 (one 870 h.p. BMW 132 Dc motor). Span, 47 ft. 6½ in.; length, 35 ft. 7 in. Max. speed, 220 m.p.h. at 9,480 ft. German Army co-operation monoplane.



THE MORANE SAULNIER Ms 315 (one 135 h.p. Salmson 9 Nc motor). Span, 39 ft. 4 in.; length, 24 ft. 11 in. Max. speed, 105 m.p.h. at sea level. Light communications, R.A.F., and French Trainer.



THE NEW HEINKEL.—Designed by Siegfried Gunter, the He 177 is Germany's largest bomber.. Although originally fitted with retractable wing tips and other unorthodox devices, in its latest form it appears to have been simplified.

LESSER KNOWN TYPES—LVIII THE HEINKEL He 177

A FAIR number of Heinkel He 177 heavy bombers are now believed to be in service with the Luftwaffe, although little of them has been seen in action. Either they are being held in reserve—which does not seem likely, in view of the strain on the Luftwaffe's resources—or troubles have developed which are keeping them from playing a prominent part.

In general design the He 177 appears to be a potentially formidable bomber. The top speed is around 280 m.p.h. and the maximum bomb load about 16,000 lb. Little is known about its defensive power except that there is an underneath gun position near the nose, possibly a top turret, and a tail gun position, probably equipped with a single cannon.

Although the He 177 has only two motor nacelles, it has, in fact, four engines. In each nacelle there are two DB.601 12-cylinder liquid-cooled Vee engines placed side by side and driving a single four-blade airscrew of 10-ft. 9-in. diameter with very wide blades. Recently reports have spoken of a modification with two BMW 801 motors placed one in front of the other in each nacelle, with fully ducted, fan-assisted air cooling—and still driving the single airscrew on each side of the fuselage. The new arrangement would give a total of

about 6,400 h.p., compared with the total of 4,800 h.p. of the Mercedes-Benz installation.

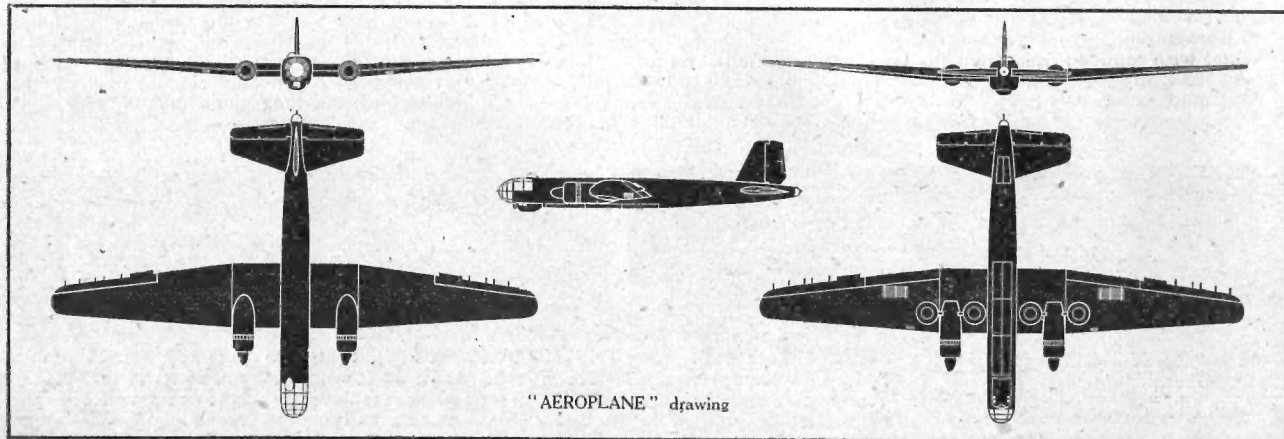
We must expect the German technicians to overcome the troubles with the He 177 and for it to appear in service soon—although the bombing of Rostock probably held up production greatly. When it is operational it will be able to carry very heavy bombs, but should not prove difficult for Allied night fighters to destroy.

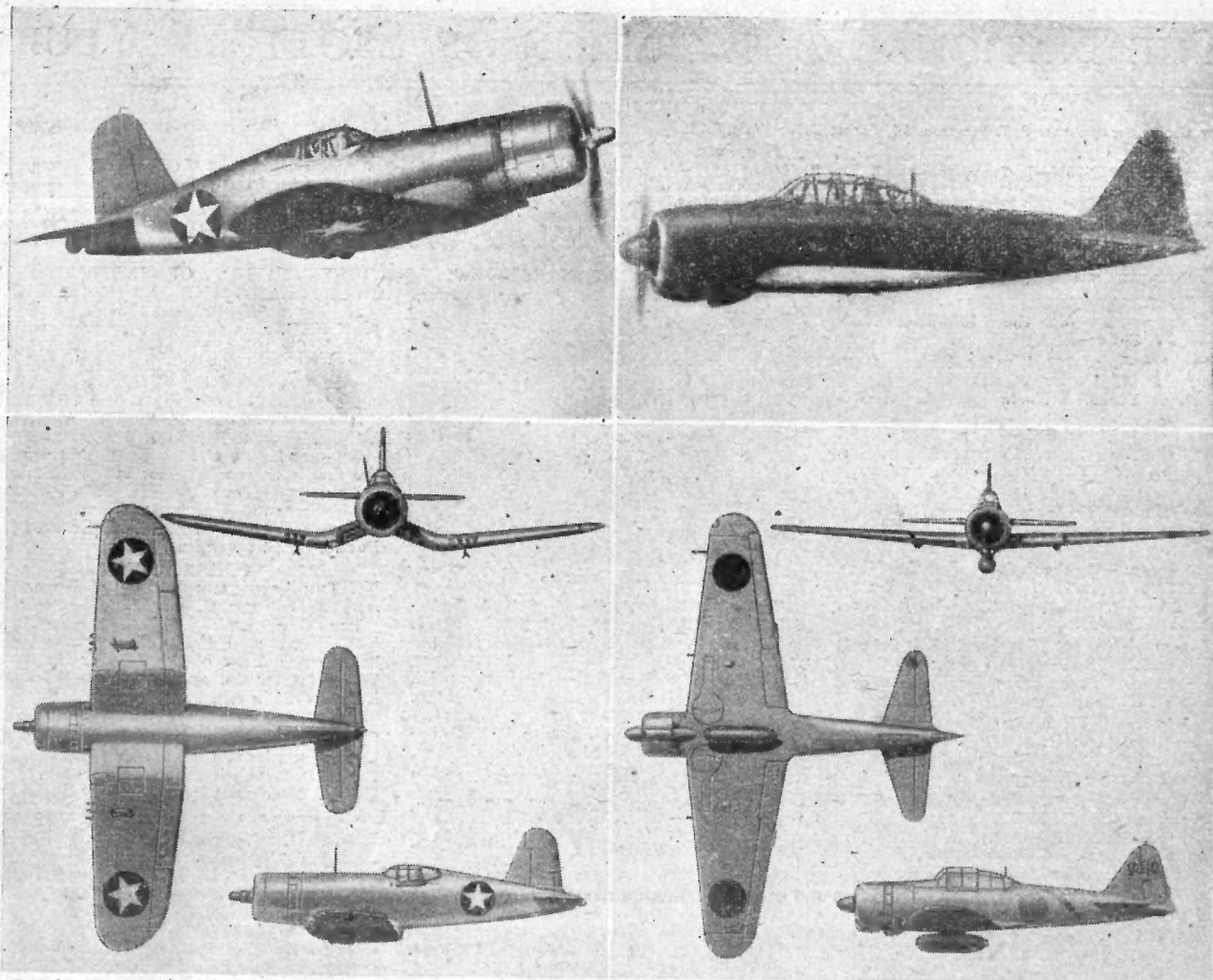
DIMENSIONS.—Span, 103 ft. 4 in.; length, 67 ft. 3 in.; height, 18 ft. 2 in.; wing area, 1,092 sq. ft.; aspect ratio, 9.8.

WEIGHTS.—Empty, 35,000 lb.; loaded, 71,600 lb.

PERFORMANCE.—Max. speed, about 280 m.p.h. at 19,000 ft.

POINTS OF RECOGNITION.—Long cylindrical fuselage with observation dome on top and large gun blister underneath the nose. Mid-wings have a straight centre section; equal taper on leading and trailing edges outboard of motor nacelles; rounded tips. Both single fin and rudder and tailplane are mounted forward of the rear of the fuselage and have well-tapered leading edges, slightly tapered trailing edges, and square-cut tips. Two radial motor nacelles. Four-wheel undercarriage retracting on both sides of each nacelle.





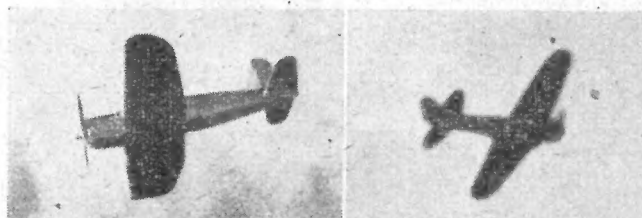
DETAILED ANALYSIS.—The points by which the subjects of the previous recognition problems can be recognised are illustrated in the photographs and drawings of the Vought-Sikorsky F4U-2 Corsair (left) and the Mitsubishi Navy S-00 (right).

THE Vought-Sikorsky F4U-2, the Corsair (one 2,000 h.p. Pratt and Whitney Double Wasp radial motor) and the Mitsubishi Navy S-00 (one 1,050 h.p. Mitsubishi Kinsei 17K-44 14-cylinder two-row radial motor) single-seat shipboard fighters were the subjects of the previous recognition tests.

The Corsair of the U.S. Navy is the most powerful single-seat fighter, yet designed for service on aircraft-carriers. It has a top speed of 366 m.p.h. and an armament of six 0.50 machine-guns mounted in the wings.

Recognition features from this angle are the straight tapered wings with rounded tips, squat fuselage with large radial motor, and the straight tapered tailplane set behind the fin and rudder. The most telling recognition feature not apparent in this view is the gull wing. The production version shown here has a

Aircraft Recognition



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PREVIOUS PROBLEMS.—(Left) A Corsair and (right) an S-00.

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longer nose than the prototype and the cockpit is set farther back.

The Mitsubishi Navy S-00 has proved itself to be the most formidable single-seat fighter in service with the Japanese air forces. It possesses excellent manoeuvrability, fast climb, and high ceiling. It is, however, deficient in armour and lightly built and is easily destroyed once in the sights. A captured S-00 is being flown in America. It has a maximum speed of 345 m.p.h. and an armament of two

29 mm. wing cannon and two 7.7 mm. fuselage machine-guns. Points of recognition from this angle are the straight equal tapered wings with rounded tips, slim fuselage with radial motor and the swept-back tailplane set forward of the triangular fin and rudder. A long-range fuel tank or a 500-lb. bomb can be slung under the fuselage.



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FOR IDENTIFICATION LXXVII.—Two more photographs to give practice in the recognition of Allied and enemy aeroplanes. What they are and notes on their characteristics will be published with two more photographs on February 25.

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| 239. The Broadway, Dudley, Worcs. | 12. Plymouth Street, Oldham. | 10. Eden Street, Glasgow. | "Little Hemingfold," Battle, Sussex. |

NEW SPOTTERS' CLUBS

WE HAVE RECEIVED notice of the formation of the following new Spotters' Clubs:—

No. 509.—No. 202 Bingley Sqdn.—(Hon. Sec.: R. G. Poole, 26, Bankfield Drive, Shipley, Yorks.) North Eastern Region (No. 2).

No. 510.—Ilkley S.C.—(Hon. Sec.: F. D. Marshall, Deerstons, Bolton Abbey, Nr. Skipton.) North Eastern Region (No. 2).

No. 511.—King Edward School S.C.—(Hon. Sec.: F. G. Wood, 3, Lythall Avenue, Lytham, Lancs.) North West Region (No. 10).

No. 512.—Dunkenhalge R.S.C.—(Hon. Sec.: Sgt. A. Naylor, Dunkenhalge Works, Clayton, Nr. Accrington.) North West Region (No. 10).

No. 513.—No. 640 (Southend High School) Flt. A.T.C. S.C.—(Hon. Sec.: L/C R. Sturgess, 39, Park Lane, Southend-on-Sea, Essex.) Eastern Region (No. 4).

No. 514.—H. W. Ward's Worcester Works S.C.—(Hon. Sec.: R. J. Hughes, c/o H. W. Ward and Co., Ltd., Blackpole, Worcester.) Midland Region (No. 9).

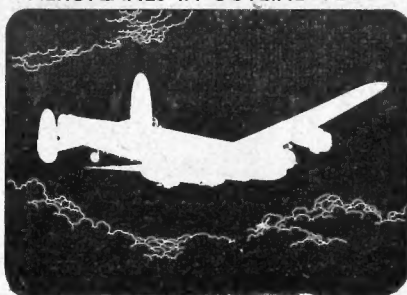
No. 515.—No. 312 Sqdn. A.T.C. S.C.—(Hon. Sec.: Cpl. K. I. O'Brien, Marsh Farm, Sturry Road, Canterbury.) South Eastern Region (No. 12).

No. 516.—The Forest Row S.C.—(Hon. Sec.: H. A. Powys-Jones, Kidbrooke Park, Forest Row, Sussex.) South Eastern Region (No. 12).

No. 517.—Sevenoaks School S.C.—(Hon. Sec.: J. W. Beaney, 25, Buckhurst Avenue, Sevenoaks, Kent.) South Eastern Region (No. 12).

No. 518.—"Baker Perkins" R.S.C.—(Hon. Sec.: T. W. Blake, A.R.P. Officer, Baker Perkins, Westwood Works, Peterborough.) North Midland Region (No. 3).

AEROPLANES IN OUTLINE—XXX



The Avro Lancaster II

No. 519.—Desford Boys' School S.C.—(Hon. Sec.: F. Clay, Desford Boys' School, Desford, Nr. Leicester.) North Midland Region (No. 3).

No. 520.—Tiverton S.C.—(Hon. Sec.: W. Urry, 17, St. Andrew Street, Tiverton, Devon.) South Western Region (No. 7).

No. 521.—No. 1252 Sqdn. A.T.C. S.C.—(Hon. Sec.: D. F. Cowley, Tudor Cottage, Coach Road, Ottershaw, Surrey.) South Eastern Region (No. 12).

No. 522.—No. 922 Flt. A.T.C. S.C.—(Hon. Sec.: J. E. Peckham, 3, Pelton Avenue, Sutton, Surrey.) South Eastern Region (No. 12).

No. 523.—Princes Risborough Youth Squad Club.—(Hon. Sec.: Miss S. Forward, 1, Wycombe Road, Princes Risborough.) Southern Region (No. 6).

No. 524.—Presentation Aircraft Recognition Club.—(Hon. Sec.: A. C. Kelly, 78, Elmhurst Road, Reading.) Southern Region (No. 6).

No. 525.—Keighley and District S.C.—(Hon. Sec.: D. C. Dunlop, A.R.P.S., 21, Elmore Terrace, Crosshills, Nr. Keighley, York.) North Eastern Region (No. 2).

PRESENTATION OF INSTRUCTORS' CERTIFICATES AND INTER-REGIONAL CO-OPERATION

ON FEB. 2, certificates were presented by Col. Sir Edward Warner, D.S.O., M.C., Senior Regional Officer (London Region), to the 42 Club Training Officers who passed out successfully from the course of instruction recently organised by Mr. A. H. E. Barrow, London Region R.R.S.I.

Commander A. G. Adamson, President of the South Eastern Region, introduced, later in the same evening, Mr. A. C. Baker, Chairman of the Dartford S.C., who demonstrated the uses of a Hunt trainer with the Dartford S.C. apparatus.

CORRECTION

IN THE AEROPLANE SPOTTER of January 28 I've quoted the title of S.C. No. 508 as "The Tosca Link S.C." This should, in fact, have read "The Tosca Link S.C." The Control Firm of this Link is the Ascot Water Heater Co. and the name "Tosca" is "Ascot" in reverse.

SUCCESSFUL EFFORT

TWO DANCES organised by S.C. No. 167 (International Combustion, Ltd.) raised the sum of £50, which has been sent on to the R.A.F. Benevolent Fund. A very fine show.

SPOTTERS IN RICHMOND, YORKS

MR. H. K. HIRD, of 131, Darlington Road, Richmond, Yorks, is hoping to form a Spotters' Club in the Richmond area. All interested should write to him.

OPEN MEMBERSHIP

S.C. NO. 67 (GRIMSBY) have decided to open their Club to all interested in aircraft recognition in Grimsby and District. Details from Hon. Secretary, Mr. W. Doherty, 94, Eleanor Street, Grimsby, Lincs.

S.C. No. 202 (Alford Grammar School) are also inviting applications for membership. Full details from Hon. Secretary, Mr. W. W. Swaby, Withern, Nr. Alford, Lincs.

FORTHCOMING EVENTS

- Feb. 11.—Doncaster.—S.C. 106.—Security Talk with Films, by Mr. P. Gill, R.R.S.I.—C.D. Instructional Room, 21, French Gate.—19.00 hrs.
- Feb. 11.—Westminster.—S.C. 142.—Thornycroft House, Smith Square.—18.00 hrs.
- Feb. 11.—Seaham.—S.C. 230.—Rock House.—18.30 hrs.
- Feb. 11.—Wandsworth.—S.C. 483.—Wandsworth Town Hall.—20.00 hrs.
- Feb. 12.—Kentish Town.—S.C. 16.—Talk by Mr. Cooksley, L.A.R.P., on "Bomb Characteristics in Relation to the Spotter."—The North-Western Polytechnic, Prince of Wales Road, N.W.5.—18.30 hrs.
- Feb. 12.—Wembley.—S.C. 71.—Lecture on Army Co-operation Aircraft.—Second Class Test.—Palace of Arts.—18.00 hrs.
- Feb. 12.—Hoddesdon.—S.C. 128.—Clock House.—19.30 hrs.
- Feb. 12.—Preston.—S.C. 249.—General Meeting.—Central Police Station.—19.30 hrs.
- Feb. 12.—Ratcliffe College.—S.C. 331.—Second and Third Class Series Lectures.—Ratcliffe College.—20.00 hrs.
- Feb. 13.—Fullarton Hotel.—S.C. 166.—Fullarton Hotel.—15.00 hrs.
- Feb. 13.—Ratcliffe College.—S.C. 331.—Committee Meeting.—Ratcliffe College.—17.30 hrs.
- Feb. 14.—Ratcliffe College.—S.C. 331.—Raid Spotter Series Lectures.—Ratcliffe College.—19.45 hrs.
- Feb. 15.—Southampton.—S.C. 94.—A.R.P. Central Division Hdqrs., 61, Highfield Lane, Southampton.—19.00 hrs.
- Feb. 16.—London.—Meeting of Executive Committee of General Council.—Bowling Green Lane, E.C.1.—18.00 hrs.
- Feb. 16.—Southend.—S.C. 1.—A.R.P. Hdqrs., 120 Victoria Avenue.—19.00 hrs.
- Feb. 16.—Stoke-on-Trent.—S.C. 60.—Lecture Hall, Back Glebe Street.
- Feb. 16.—N. London.—S.C. 156.—Northern Polytechnic, Holloway Road, N.7.—19.00 hrs.
- Feb. 16.—Crosby.—S.C. 320.—St. Mary's College.—19.00 hrs.
- Feb. 16.—Ratcliffe College.—S.C. 331.—First Class Series Lectures.—Ratcliffe College.—20.00 hrs.
- Feb. 17.—Sunderland.—S.C. 37.—Training Course, 3.—Second Class Test.—"New Aircraft" Discussion.—"Sons of Temperance" Room, Norfolk Street.—19.30 hrs.
- Feb. 17.—Hastings.—S.C. 47.—White Rock Pavilion.—19.30 hrs.
- Feb. 17.—Rickmansworth.—S.C. 81.—Special Competition Evening, with Prizes.—112, High Street.—19.30 hrs.
- Feb. 17.—Walton-on-Thames.—S.C. 96.—Anglo-Iranian Oil Co., Ltd., New Zealand Avenue.—19.30 hrs.
- Feb. 17.—Belfast.—S.C. 151.—45, Howard Street.
- Feb. 17.—Barnet.—S.C. 168.—Lecture on "Bristol Aeroplanes in Peace and War," by Mr. P. F. Murray.—East Barnet County School.—19.00 hrs.
- Feb. 17.—Sheffield.—S.C. 178.—Geo. Senior and Sons, Ltd., Ponds Forge, Sheaf Street.—19.00 hrs.
- Feb. 17.—Wigan.—S.C. 266.—Town Hall.—19.15 hrs.

- Feb. 18.—Doncaster.—S.C. 106.—Lecture 3.—Raid Spotters' Course.—C.D. Instructional Room, 21, French Gate.—19.00 hrs.
- Feb. 18.—Histon.—S.C. 145.—First Class Test.—Chivers and Sons, Ltd.—19.00 hrs.
- Feb. 18.—Seaham.—S.C. 230.—Rock House.—18.30 hrs.
- Feb. 18.—Crosby.—S.C. 320.—St. Mary's College.—19.00 hrs.
- Feb. 18.—Wandsworth.—S.C. 483.—Wandsworth Town Hall.—20.00 hrs.
- Feb. 19.—Hoddesdon.—S.C. 128.—Second Class Test.—Clock House.—19.30 hrs.
- Feb. 19.—Stapleford.—S.C. 159.—Instruction.—Constitutional Club.—19.00 hrs.
- Feb. 19.—Blaugrove.—S.C. 35.—Show of Identification Films.—Cooper's Smokeroom, 38, Howard Street.—19.30 hrs.
- Feb. 19.—Newport.—S.C. 422.—Newport Secondary School.—19.00 hrs.
- Feb. 19.—Preston.—S.C. 249.—Recognition and Interest Films.—Central Police Station.—19.30 hrs.
- Feb. 20.—Wembley.—S.C. 21.—"Combined Operations" Meeting.—Lecture on "How Aeroplanes Are Designed," by Mr. D. L. Ellis.—A.T.C. Headquarters, Barham Park.—19.30 hrs.
- Feb. 21.—Bucklow Hill.—Branch 55.—Flying Views Competition and Lecture.—Swan Hotel.—10.15 hrs.
- Feb. 21.—Ratcliffe College.—S.C. 331.—Second and Third Class Series Lectures.—Ratcliffe College.—20.00 hrs.
- Feb. 22.—Hendon.—Instructional Talk.—Hendon Technical College.—19.30 hrs.
- Feb. 22.—Downham.—S.C. 454.—St. Andrew's Hall, Nr. Southover.—19.15 hrs.
- Feb. 23.—Streatham Common.—S.C. 15.—"Five-minute Talks."—Third Class Test.—St. Joseph's College, A.T.C. Hdqrs., Crown Point.—19.30 hrs.
- Feb. 23.—N. London.—S.C. 156.—Northern Polytechnic, Holloway Road, N.7.—19.00 hrs.
- Feb. 23.—Crosby.—S.C. 320.—St. Mary's College.—19.00 hrs.
- Feb. 23.—Ratcliffe College.—S.C. 331.—Raid Spotters' Lectures.—Ratcliffe College.—20.00 hrs.
- Feb. 24.—Blackfriars.—S.C. 12.—Meeting in the Cinema, Unilever House.—18.00 hrs.
- Feb. 24.—Newbury.—S.C. 51.—Cup Competition.—At Elliott's of Newbury, West Street Entrance.—19.30 hrs.
- Feb. 24.—Belfast.—S.C. 151.—45, Howard Street.
- Feb. 24.—Sheffield.—S.C. 178.—Geo. Senior and Sons, Ltd., Ponds Forge, Sheaf Street.—19.00 hrs.
- Feb. 24.—Hackney.—S.C. 181.—A.R.P. Hdqrs., 219, Mare Street, E.8.—19.00 hrs.
- Feb. 24.—Wigan.—S.C. 266.—Town Hall.—19.15 hrs.
- Feb. 25.—Westminster.—S.C. 142.—Thornycroft House, Smith Square.—18.00 hrs.
- Feb. 25.—Histon.—S.C. 145.—"History of the Single Seat Fighter," by R. M. Dye.—Preliminary Test.—Chivers and Sons, Ltd.—19.30 hrs.

THE NATIONAL ASSOCIATION OF SPOTTERS' CLUBS

DELEGATES from 29 Spotters' Clubs in different parts of Great Britain met on May 3, 1941, at the Royal Aeronautical Society, to form a National Association of Spotters' Clubs for the purpose of assisting members to become expert at Raid Spotting and Aircraft Recognition.

Upon this occasion a constitution to cover the running of the Association was drawn up and, although the Association is now a National body, recognised by the Ministry of Home Security and possessing a membership grown to many times its original number, the lines then laid down for the running of Clubs are still the basis of administration.

There is much in the Constitution which is of little concern to the average Club, but there are a number of points which must concern each Club; these are set out hereafter:—

Membership.—Members can be (a) Full Members, or (b) Associate Members.

Associate Members are asked to leave meetings when confidential information is to be discussed.

Full Members must be bona fide Raid Spotters, trainers of Raid Spotters, members of H.M. Forces, members of the R.O.C. or A.T.C., or engaged in the Aircraft Industry.

Organisation.—Each Club is represented on a Regional Council by a delegate. Regional Councils are responsible for co-ordinating the activities of Clubs within each of the 12 Regions. Regional boundaries coincide with those of the Ministry of Home Security (see map).

The activities of the Regional Councils are co-ordinated by the General Council, upon which sits a delegate from each Regional Council.

The National Association is organised from the Clubs upwards, a system that ensures its completely democratic character.

Relationship with the Ministry of Home Security.—Although the National Association of Spotters' Clubs is an independent body, it has always worked closely with the Ministry of Home Security. Its first President General is the Inspector General of the Ministry, and Regional Commissioners serve as Presidents of several Regional Councils. Liaison Officers of the Ministry sit upon both the General Council and the Regional Councils.

Under an agreement reached with the Ministry of Home Security, the National Association of Spotters' Clubs has undertaken the training of Industrial Raid Spotters for the Ministry. Briefly, the scheme is that the Ministry's Regional Raid Spotting Officers train a Club Training Officer for each Club, and this Officer is then responsible for the training of Raid Spotter Members, for which purpose he receives official equipment and information from the Ministry. In this way centres for continuous training are provided all over the country and the necessary high standards of training ensured.

Formation of Clubs.—Clubs may be formed by:—

- (1) The Raid Spotters of a district.
- (2) The Raid Spotters of a private company.
- (3) Units of H.M. Forces, including ships of the Royal Navy and the Home Guard.
- (4) Any other body of enthusiasts, including the R.O.C., A.T.C., Air Scouts and Schools.

Permission to affiliate to the N.A.S.C. should be sought at the earliest stages from the Regional Honorary Secretary, who will not withhold this unless the proposed new Club would duplicate an existing Club, or its membership is inadequate. The addresses of each Regional Honorary Secretary can be found upon the N.A.S.C. page of THE AEROPLANE SPOTTER. Proposed Clubs with Raid Spotter membership are urged to seek the assistance of the Regional Raid Spotting Officer at Regional Headquarters.

Before a Club is officially formed the "promoter" should have a fair idea of the



The Regions of the
N.A.S.C.

group of potential members to which it is designed to appeal. Thus the Raid Spotters or the A.T.C. of a district may decide to form Clubs restricted to one or other, or open to all persons interested in the subject. Occasionally, it is necessary for a Club to restrict its membership to the personnel of one firm on account of geographical or security factors, but as a rule Clubs with open membership are to be preferred as they gain greatly in strength from their increased variety and numbers of members.

Inaugural Meetings.—Those concerned with the promotion of a Club should call an inaugural meeting at which an interested person of some standing should be asked to take the Chair. Local Raid Spotters, firms employing Raid Spotters, A.T.C. Units, etc., should be invited either by letter or personal contact. It is desirable that the meeting should be attended by an officer of the Regional Council, the Regional Raid Spotting Officer, or an officer of another Club. Notices may be inserted in the local Press if desired.

After preliminary discussions, during which those present should be encouraged to express their views, the meeting should

(1) decide whether the membership is to be open or restricted to clearly defined groups;

(2) consider the application form for affiliation to the N.A.S.C.;

(3) fix the subscription (maximum 3s. 6d. per annum);

(4) appoint officers; in particular Chairman, Honorary Secretary, Honorary Treasurer, Training Officer and/or Competitions Officer;

(5) appoint three other members to form a Committee with the officers;

(6) nominate a delegate to the Regional Council;

(7) arrange the time and place of the next Club Meeting.

Club Activities.—Once the Club has been

formed and affiliation granted, the Committee should meet as soon as possible in order that plans for the future activities of the Club can be made. This is an important duty for each Club Committee to perform and the success or failure of the Club will largely depend upon whether or not an instructive series of meetings has been arranged.

Such meetings should be interesting as well as instructive and a carefully balanced syllabus which caters for the beginner as well as the expert should be drawn up. Should any difficulty in doing this be experienced, the assistance of the Regional Council should be sought.

Lectures by visiting speakers, Aircraft Recognition tests, Question Bees on Raid Spotting and Recognition and graded instruction on both subjects will provide a basis for a large number of meetings and little difficulty should be encountered in this respect.

Financial Obligations of Clubs.—Besides the affiliation fee of 5s., payable upon the formation of the Club, there is payable annually to the Regional Council a capitation fee in respect of each member, whether Full or Associate. This fee—ranging from 3d. to 1s.—is fixed at the Annual General Meeting of each Regional Council.

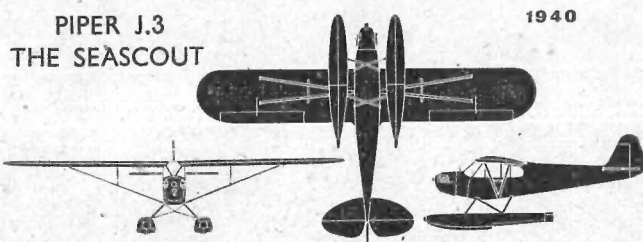
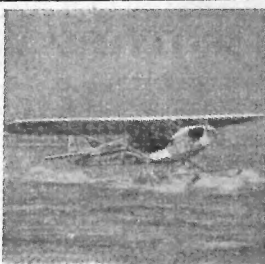
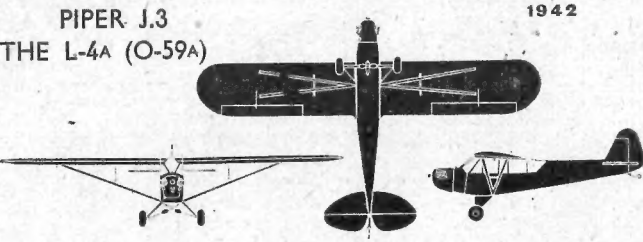
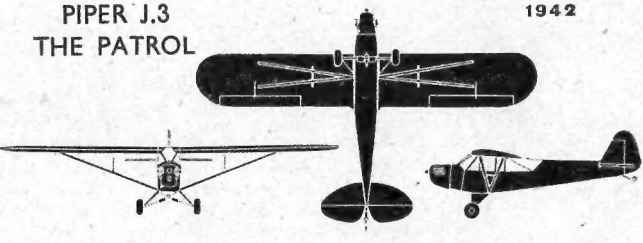
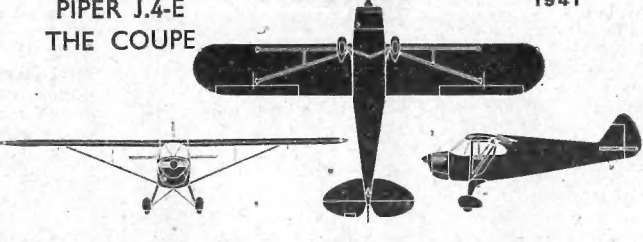
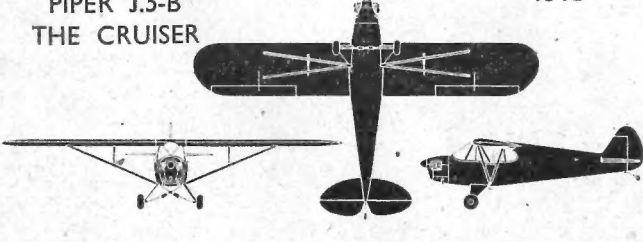
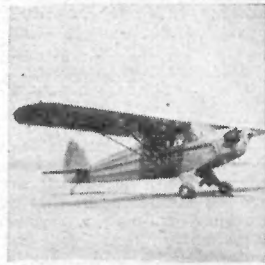
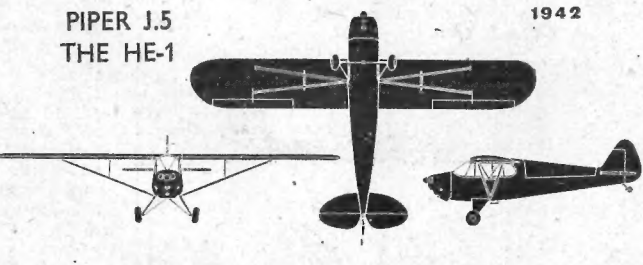
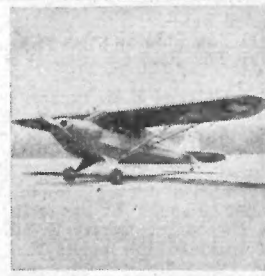
Regional Activities.—Regional Councils endeavour to arrange Regional Competitions in Raid Spotting and Aircraft Recognition between the Clubs within their area and to arrange for periodical central instruction wherever geographical conditions permit. These activities have proved extremely successful and have done much to increase the efficiency of all concerned.

Ministry of Home Security Training Equipment.—The equipment issued to Clubs with a Raid Spotter membership consists of large and small scale silhouettes, scale model aircraft, the Inter-Services Journal on Aircraft Recognition and the use of a number of films.

(Continued on back page.)

AIRCRAFT COMPARISONS—LXXVII

THE PIPER CUBS

SPAN: 35 ft. 2½ in. LENGTH: 22 ft. 6½ in. HEIGHT: 6 ft. 8 in. LOADED WEIGHT: 1,160 lb. MAX. SPEED: 75 m.p.h. at sea level. One 65 h.p. Continental A-65-7 four-cylinder horizontally opposed air-cooled motor. Two-seat (tandem). Civil communications and training.	PIPER J.3 THE SEASCOUT 1940 	
SPAN: 35 ft. 2½ in. LENGTH: 22 ft. 6½ in. HEIGHT: 6 ft. 8 in. LOADED WEIGHT: 1,160 lb. MAX. SPEED: 88 m.p.h. at sea level. One 65 h.p. Continental A-65-9 four-cylinder horizontally opposed air-cooled motor. Two-seat (tandem). U.S. Army light reconnaissance.	PIPER J.3 THE L-4A (O-59A) 1942 	
SPAN: 35 ft. 2½ in. LENGTH: 22 ft. 6½ in. HEIGHT: 6 ft. 8 in. LOADED WEIGHT: 1,160 lb. MAX. SPEED: 88 m.p.h. at sea level. One 65 h.p. Continental A-65-9 four-cylinder horizontally opposed air-cooled motor. Two-seat (tandem). U.S. Civil Air Patrol.	PIPER J.3 THE PATROL 1942 	
SPAN: 36 ft. 2 in. LENGTH: 22 ft. 6 in. HEIGHT: 6 ft. 10 in. LOADED WEIGHT: 1,400 lb. MAX. SPEED: 100 m.p.h. at sea level. One 75 h.p. Continental A-75-8 four-cylinder horizontally opposed air-cooled motor. Two-seat (side by side). Civil communications.	PIPER J.4-E THE COUPE 1941 	
SPAN: 35 ft. 5½ in. LENGTH: 22 ft. 6 in. HEIGHT: 6 ft. 10 in. LOADED WEIGHT: 1,450 lb. MAX. SPEED: 95 m.p.h. at sea level. One 75 h.p. Lycoming O-145 four-cylinder horizontally opposed air-cooled motor. Three-seat (side by side with one behind). Civil communications.	PIPER J.5-B THE CRUISER 1942 	
SPAN: 35 ft. 5½ in. LENGTH: 22 ft. 6 in. HEIGHT: 6 ft. 10 in. LOADED WEIGHT: 1,550 lb. MAX. SPEED: 114 m.p.h. at sea level. One 100 h.p. Lycoming O-235 four-cylinder horizontally opposed air-cooled motor. Three-seat (side by side with stretcher behind). U.S. Navy ambulance.	PIPER J.5 THE HE-1 1942 	

PIPERS ON WAR WORK.—Of the twenty-three different versions of the five basic types of Piper Cub (originally produced in 1931 as the Taylor Cub) at least fourteen are flying on communications, training and light reconnaissance duties with the U.S. Army, U.S. Navy, U.S. Civil Air Patrol, R.A.F. and R.C.A.F. Four types are used for specialised duties. The L-4 and L-4A are light reconnaissance aeroplanes of the U.S. Army. The Piper Patrol, a slightly modified version of the L-4 is, used for coastal reconnaissances by the U.S. Civil Air Patrol and the HE-1 is a light ambulance aeroplane of the U.S. Navy with accommodation for a pilot and nurse or doctor, and a single stretcher which is admitted through the hinged top of the fuselage aft of the wings.

CORRESPONDENCE

THE WORLD'S FASTEST

COULD YOU publish in THE AEROPLANE SPOTTER the fastest aeroplane in the World? I have had many arguments as to which it is. A lot of people said it was the Mosquito, but I do not agree. Could you explain and possibly say which is the fastest?

L. FAULKES.

[The present World's Speed Record is held by a German Messerschmitt Me 109R with an average speed of 481.7 m.p.h. over 3 km. The fastest aeroplane in squadron service at present is undoubtedly the Hawker Typhoon with the Supermarine Spitfire IX a close second, and both doing more than 400 m.p.h.—Ed.]

BE PREPARED

THE APATHY existing among Industrial Raid Spotters, particularly in this Region, is causing very deep concern to officials and others interested in the management and welfare of Spotters' Clubs.

Attendances at meetings and lectures have fallen off to an alarming degree at a time when, thanks to assistance from the Ministry, Club Training Officers are in a position to provide more instructive, and a greater variety of, lectures.

The position in many large industrial areas is that a large percentage of Raid Spotting personnel have no longer the efficiency required to act in this highly responsible capacity. Yet, should the enemy resume his attacks on our towns and cities, these people would immediately "take the roof" and assume full control.

The lull in air attack has largely contributed to this deplorable state of affairs, although another factor has been the introduction of the Industrial Alarm System, since which, many Works Managers have ceased to give the necessary encouragement to the Spotters to continue their studies, preferring to rely on the "bell."

I can say from personal experience that in spite of many of these alarms I have not yet had the occasion to put my own workmates down to shelter and output has been fully maintained.

It is high time that the Authorities took steps to remedy the position I have described. One solution, possibly, would be to compel Raid Spotters to maintain some standard of efficiency, if only the present Third Grade Test.

Whatever steps are contemplated should be taken without delay to overhaul and maintain as an efficient machine the Raid Spotting organisation of the country.

JAMES HARTLEY,
Hon. Sec. Preston
and District Spotters.

[We believe that efficient Raid Spotting is of the greatest importance at a time when "sneak" daylight raids are likely to increase in numbers and range. Raid Spotting is a vital link in the chain of national production.—Ed.]

FIGHTER OVERLOAD

IS IT a definite fact that, as stated in THE AEROPLANE SPOTTER of Dec. 31, the Messerschmitt Me 109E only carries a 110 lb. bomb? I query this because I found out that bombs weighing 500 kilos. have been dropped by Me 109Fs in this area. It seems a great difference in weight for so small an increase in wing area.

R. R. CHARLWOOD.

[Although a few Me 109Fs may carry 500 kilos. bombs from time to time, it is certainly not normal practice.—Ed.]

"WALLOP"

I AM glad that the somewhat foolish and, to my mind, entirely untrue statement made by Colonel Knox about the Wildcat has been brought to your notice. In calculating "wallop," however, you omit the very important point of the destructive power of the projectile itself. Thus, even if the muzzle energy and weight of fire of the guns of the Spitfire are slightly less than for those of the Wildcat, the very fact that the armament of the Spitfire includes cannon surely gives it far and away more "wallop."

Is it not time that statements such as that made by Colonel Knox—Mr. Perkins's mention of the York, and one or two remarks of Captain Rickenbacker also suggest themselves—are properly censored? Major de Seversky very quickly condemned this form of careless talk. Can he not be backed up by the authorities? It is not fair to the Americans, and it is not fair to us, and it is most certainly harmful. G. M. TULIP.

[There is much variance of opinion concerning the comparative effectiveness of a large solid bullet, such as that of the 1-in. machine-gun, and of an explosive shell, such as that of a 20 mm. cannon. The result probably depends on the type of target. Whereas a cannon shell may explode on contact with the outer skin of an aeroplane the large bullet will go through it and possibly through armour inside. The damage caused by each varies according to the place of strike. M.P.s are above censorship except in secret session.—Ed.]

"AIRCRAFT"

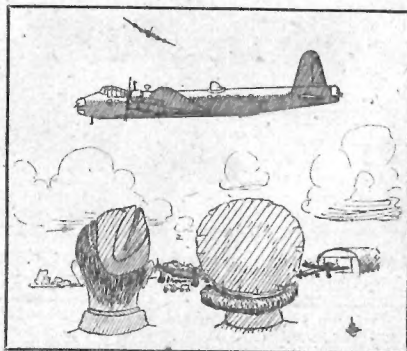
UNDER the very interesting "Family Tree of all Aircraft" in the last issue, you state that the term "aircraft" is plural—as Geese. For my part I had always regarded it as singular or plural according to the context in which it is used—as in sheep!

On reference to the Oxford Concise Dictionary I find that a craft is a boat or vessel, the plural of which is also craft. Further aircraft is given as aeroplane(s), airship(s) or balloon(s).

Where do we go from here?

J. A. RHIND, R.O.C.

[Despite the dictionary, "aircraft" is essentially plural. "An aircraft," when used to mean "an aeroplane," is sloppy, because it denotes a lack of clear thought, the term conjuring up an indefinite mental picture of any heavier-than-air or lighter-than-air craft, from a gyroplane, by way of a glider to a kite balloon, or airship. When we mean an aeroplane let us say an aeroplane, when we mean a helicopter let us say a helicopter, and not describe them by generic terms—like calling a dog "a quadruped."—Ed.]



"... then whatever does a LONG one look like?"

GERMAN FAILURES

"AIRCRAFT IDENTIFICATION"
PART II states that the performance of the He 113 was equal to that of the Me 109R. In spite of rough handling in the air and maintenance difficulties, why didn't the Germans have more squadrons of this type? Its speed (given as 380 m.p.h.) is first class.

Have there been many squadrons, and are there still Zerstörers (Fw 187) in service as shipping raiders? "Aircraft of the Fighting Powers II" stated that this machine had been an improvement on the Me 110 because the Focke-Wulf concern made them. The fins and rudders of the Me 110 were said to be very weak. Were these faults righted and built in the Zerstörer? E.H.

[The He 113 was a brute to fly and difficult to produce. The Heinkel works had their hands full with other types and the enemy believes implicitly on concentration of effort. For these reasons the He 113 was not built in quantities. Much the same applies to the Focke-Wulf Fw 187. None is known to be in service now. The Me 110 was taken out of production favour of the Me 210, although new marks of the Me 110 are probably still being built.—Ed.]

THE BRISTOL TYPE F

IN YOUR NOTE to Mr. Graham Burton's letter re Bristol machines, you have fallen into a slight error. The Bristol Scout F with Arab motor had a speed of 126 m.p.h., not 145 m.p.h.

The speed of 145 m.p.h. was that of the Bristol Type F fitted with Sir Roy Fedden's first Mercury engine (nine-cylinder radial) which I saw tested in September, 1918, at Filton. This climbed 10,000 ft. in 5 mins. 43 secs.—the best climb of the War, although it was thought that the Sopwith Snapper and the B.A.T. Basilisk would beat it. These had the unreliable Dragonfly engine. The Basilisk crashed and killed the pilot, Mr. Peter Legh, shortly afterwards, so its performance was never proved. H.L.R.

[Research on the performance of the Bristol Scout F.1 has revealed the following performance figures:—

With 200 h.p. Sunbeam Arab motor:
Top speed 138 m.p.h. low down and 128 m.p.h. at 10,000 ft.

With 315 h.p. Cosmos Mercury motor:
Top speed 145 m.p.h. low down.

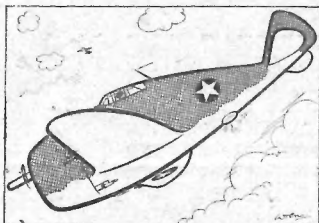
The B.A.T. F.K.25 Basilisk, designed by Frederick Koolhoven had a top speed of 162 m.p.h. low down when powered with the 320 h.p. A.B.C. Dragonfly radial and an officially-quoted time of climb to 10,000 ft. of five minutes.

When the British Aerial Transport Company was merged by Lord Waring, with the Alliance Aircraft Co. of Acton, and the British Nieuport Co. of Hendon into one combine, Capt. Tait-Cox, the Nieuport test-pilot, undertook special trials with the Basilisk, which resulted in the establishment of the figures quoted.

The A.B.C. Dragonfly was reported to have suffered from torsional resonance in the crankshaft, a phenomenon very little understood then. Official attitude on this motor was never clear, as one of the prototypes functioned perfectly in India for two or three years about 1920/23, in a British Nieuport Nighthawk, another single-seat fighter in the same class as the Bristol F, the Basilisk and the Snapper, and the projected S.E.6.

The speed of the Sopwith Snapper was 140 m.p.h. at 3,000 ft.; the Nieuport Nighthawk, designed by Mr. H. P. Folland, did 151 m.p.h. low down.—Ed.]

ODDENTIFICATION—XCIV



The Republic P-47B,
The Thunderbolt.

DO YOU KNOW?—XLVIII

1. The British name for the American Martini?
2. Whether the Do 217E2 is equipped with slots?
3. A large twin-engined British aeroplane with slight anhedral angle on the wings?
4. The number of fins and rudders on (i) the Manchester IA, (ii) the S.M.55X, (iii) the Avro 504K?
5. Where the bomb load of a Martin Mariner I is carried?
6. A four-engined British aeroplane with dihedral on the tail-plane?
7. How many cylinders there are in the following aero-motors:—
(i) Niagara, (ii) Sabre, (iii) Bayetische Motoren Werke 801?
8. The chief distinguishing feature between the Oxford IV and V?
9. To what Italian aeroplanes the following names were given and what they mean:—
(i) Sassetta, (ii) Airone, (iii) Pipistrello.
10. Which is the faster—Beaufighter I or II?

SOLUTION TO "DO YOU KNOW?"—XLVII

1. One of the two seaplane versions of the Short Scion Senior.
2. The term polyhedral is applied to an aeroplane wing with

FAMOUS AIRCRAFT—IV



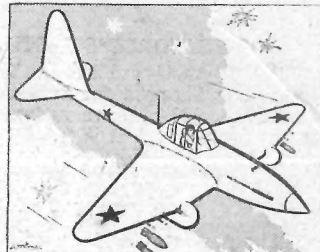
THE "SOUTHERN CROSS"—1928.—This Fokker tri-motor monoplane powered with three 220 h.p. Wright Whirlwind J5-C motors was the first aeroplane to fly across the Pacific and the first landplane to fly round the World. Two Australian airmen, Charles E. Kingsford Smith and C. T. P. Ulm, financed by a generous and far-sighted American, G. Allan Hancock, acquired the "Southern Cross" from Sir George Wilkins, the Canadian explorer, and in it in January, 1928, put up a World's Endurance record for multi-motor aeroplanes by remaining in the air over San Francisco for 50 hrs. 4 mins. The "Southern Cross" was a rebuilt Fokker made from the wing of an F.X., and the fuselage of an F.VII, salvaged from Arctic flights. The big wing, which had a span of 71 ft. 8½ ins. provided great lifting powers. The "Southern Cross" took off from Oakland, California, on May 31, 1928, loaded to 15,807 lb. with Kingsford Smith and Ulm at the controls and two Americans in the cabin behind, H. W. Lyon as navigator and J. Warner, radio operator. The 7,450-mile flight across the Pacific was made in three main stages—from Oakland to Honolulu, 2,408 miles in 27 hrs. 25 mins.—from Kauai, Hawaii to Suva, Fiji, 3,144 miles in 34 hrs. 30 mins.—and from Nasel, Fiji, to Brisbane, Australia, 1,795 miles in 19 hrs. They alighted at Brisbane at 10.00 hrs. on June 9, 1928, 83 hrs. 15 mins. flying time out from Oakland. The 3,144 miles from Hawaii to Suva was the longest over-water flight ever made and a fine feat of navigation and a tribute to the reliability of the Whirlwind motors, then new. The top speed of the "Southern Cross" was 120 m.p.h. and its fuel load 1,078 imp. gallons. Kingsford Smith later flew the "Southern Cross" from Australia to England and across the Atlantic to the U.S.A., thus completing the Round the World flight. The "Southern Cross" is now in the museum at Canberra.

- more than one "hedral" angle, e.g., the Ju 87 and the Skua.
3. Short Stirling. The wheel folds backwards into a cradle which tucks forwards into the nacelle.
 4. The Shargasher is the unofficial name of the Reid and Sigrist two-motor low-wing advanced trainer.
 5. The Focke-Wulf Fw 189.
 6. The Baltimore was designed for service with the R.A.F. Tri-

cycle undercarriages have proved inefficient on rough British and African landing grounds.

7. The Sopwith Triplane. Span, 26 ft. 7 in.; height, 9 ft. 9 in.
8. Pressure above the wing is less than pressure below the wing. Air from below flows upwards at the tip to equalise the pressure. The aeroplane's movement continually leaves this upflow as a vortex in the wake of the wing.

ODDENTIFICATION—XCV



The Iliuchin IL-2, Stormovik.

9. The Vickers Wellesley was the first geodetic aeroplane to fly, although there were previous projected designs. The Tarrant Triplane of 1919 employed a form of elementary geodetic construction in wood.
10. Dive bomber.

N.A.S.C.—continued from page 9.

These films are mostly of the 16 mm. sound variety devoted to aircraft recognition.

Proficiency Tests.—Tests in aircraft recognition are set by the Competitions Officer of each Club, according to the rules laid down by the N.A.S.C. and certificates are issued to those members who are successful. These certificates, which are of Third, Second, and First Class, are issued progressively. They must be renewed at six-monthly intervals.

General Benefits.—The facilities provided by the Association have been of, undoubted benefit to Spotters throughout the Country. In many cases the training received in the Clubs has proved a useful form of pre-entry training for the Services. The steady and rapid increase in the number of Clubs is a witness to the value of N.A.S.C. activities.

THE INDEX

The Index to the third volume of THE AEROPLANE SPOTTER (January to December, 1942) is now ready and can be had from this office, price 6d. including postage.

THE SPOTTERS' GLOSSARY OF AERONAUTICAL TERMS

TAIL UNIT.—The complete assembly of tail surfaces, comprising fin, rudder tailplane and elevators.

TAIL WHEEL.—The small wheel which takes the weight of an aeroplane fuselage on the ground at the tail.

TAIL-LESS AEROPLANES.—A basic aeroplane design, first evolved by Lt. J. W. Dunne in 1907. It dispenses with tail surfaces carried on a fuselage or tail booms. The wings are swept back in plan and the control surfaces are usually carried at the wing tips. The Westland Hill Pterodactyl of 1926-1930 was a notable modern example.

TAIL-SETTING ANGLE.—The acute angle formed by the chord line of the main plane and that of the tailplane.

TAKE-OFF.—The movement of aircraft from a position of rest to the moment they are air-borne.

TANKS.—Fuel containers on aircraft.

TAXIING.—Manœuvring aircraft on the ground or on water.

TEMPERATURE.—Degrees of heat. There is a temperature variation of 129 degrees Fahrenheit (71.5 degrees Centigrade) between sea level (59 degrees F. International Standard Atmosphere) and a height of 40,000 ft.

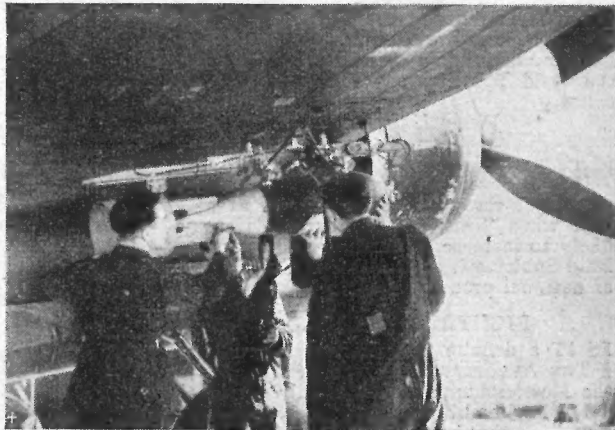
(—69.7 degrees F. International Standard Atmosphere).

TEMPERING.—The final stage in the treatment of high grade steels which relieves strains in the material and produces any required combination of hardness and toughness.

TENSILE STRENGTH.—The property of a material to resist a stress which tends to pull molecules apart.

TERMINAL VELOCITY.—The maximum speed attainable by an aeroplane at its most acute diving angle, the motor and aircrew operating under specified conditions.

(To be continued).



WHERE AND WHAT?—Two more problems to test your knowledge. Last fortnight's problems were (left) the starboard undercarriage of a Blackburn Skua retracted and (right) the port under-carriage of a Focke-Wulf Fw 190A3 in the down position.

Printed in England and Published Fortnightly by the Proprietors TEMPLE PRESS LTD., BOWLING GREEN LANE, LONDON, E.C.1

AGENTS ABROAD—U.S.A.—The International News Co., New York, N.Y. CANADA—W. Dawson & Sons (Subscription Service), Ltd., Toronto, etc.; Imperial News Co., Ltd., Toronto, etc.; Gordon & Gotch, Ltd., Toronto. AFRICA—Central News Agency, Ltd., Cape Town, etc.; W. Dawson & Sons (S.A.), Cape Town. INDIA—A. H. Wheeler & Co., Allahabad, Bombay, Calcutta, etc. AUSTRALASIA—Gordon & Gotch (A'sia), Ltd., Sydney, Melbourne, Adelaide, Brisbane, Perth, Lancaster, Wellington, etc.